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         (c) 2001 AIAA
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         (c) 2002 INIST/CNRS
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File 266:FEDRIP 2001/Nov
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         (c) 1999 Forecast Intl/DMS
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         (c) 1998 Inst for Sci Info

Set     Items   Description
S1      15062   (REMOTE OR REMOTELY)(3N)(MONITORING OR DIAGNOSTIC? OR TROU-
             BLESHOOT? OR TROUBLE()SHOOT?)
S2     790844   AEROPLANE? OR AIRPLANE? OR AIR()PLANE? OR FLIGHT? ? OR AIR-
             CRAFT? OR AIR()CRAFT?
S3       4992   (ONBOARD OR 'ON'()BOARD OR "ON"()BOARD)(3N)(COMPUTER? OR M-
             ICROPROCESSOR? OR MICROPROCESSOR? OR LAPTOP? ? OR PC)
S4       1724   MAINTENANCE(3N)(LOG OR RECORD OR HISTORY OR LOGS OR LOGGIN-
             G)
S5         59   (ENGINE()INSTRUMENT(3N)CREW()ADVISORY) OR EICAS
S6    4724332   FAULT OR FAULTS OR ERROR OR PROBLEM?
S7       2183   MAINTENANCE(3N)(MANUAL OR HANDBOOK? OR HAND()BOOK? ?)
S8        413   (FAULT()DETECTION(2W)EXCLUSION) OR FDE
S9        138   TERMINAL(3N)(ONBOARD? OR ON()BOARD?)
S10       388   (TROUBLESHOOT? OR TROUBLE()SHOOT?)(3N)(PROCEDURE?)
S11       313   (INFLIGHT? OR IN()FLIGHT)(3N)(COMPUTER? OR MICROPROCESSOR -
             OR MICRO()PROCESSOR? OR LAPTOP? OR TERMINAL? OR PC)
S12       381   FLIGHT()DECK()EFFECT OR FDE
S13     36018   (REMOTE? OR MAIN OR CENTRAL OR MAINFRAME)(3N)(COMPUTER? OR
             PROCESSOR?)
S14     56215   GLOBAL()POSITIONING()SYSTEM OR GPS
S15     26585   (MAIN OR CENTRAL OR MAINFRAME)(3N)(COMPUTER? OR PROCESSOR?)
S16         3   S1 AND S2 AND (S3 OR S11)
S17         3   RD (unique items)
S18         0   S1 AND S2 AND S4
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S19         566   S1 AND S2
S20           1   S19 AND S10
S21           0   S5 AND S1
S22          13   S1 AND (S3 OR S11)
S23          13   S22 NOT PD=010624:PD=020110
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23/7/1 (Item 1 from file: 2)
DIALOG(R)File 2:INSPEC

6953183 INSPEC Abstract Number: A2001-14-2980-001, B2001-07-7430-003, C2001-07-3380D-003
Title: Design and implementation of an automatic gas-cylinder inversion system based on an embedded computer
Author(s): Benussi, L.; Bertani, M.; Bianco, S.; Fabbri, F.L.; Gianotti, P.; Lucherini, V.; Pace, E.; Qiaser, N.; Sarwar, S.
Author Affiliation: Lab. Nazionali di Frascati, Italy
Journal: Nuclear Instruments & Methods in Physics Research, Section A (Accelerators, Spectrometers, Detectors and Associated Equipment)
Conference Title: Nucl. Instrum. Methods Phys. Res. A, Accel. Spectrom. Detect. Assoc. Equip. (Netherlands) vol.461, no.1-3 p.98-9
Publisher: Elsevier,
Publication Date: 1 April 2001 Country of Publication: Netherlands
CODEN: NIMAER ISSN: 0168-9002
SICI: 0168-9002(20010401)461:1/3L.98:DIAC;1-7
Material Identity Number: G700-2001-012
U.S. Copyright Clearance Center Code: 0168-9002/2001/$20.00
Conference Title: 8th Pisa Meeting on Advanced Detectors: Frontier Detectors for Frontier Physics
Conference Sponsor: Inst. Nazionale di Fisica Nucl.; Univ. Pisa; Univ Siena; Soc. Italiana di Fisica; et al
Conference Date: 21-27 May 2000 Conference Location: La Biodola, Elba, Italy
Document Number: S0168-9002(00)01179-7
Language: English Document Type: Conference Paper (PA); Journal Paper (JP)
Treatment: Practical (P)
Abstract: Gas-filled detectors of modern experimental setups are increasingly requiring an uninterrupted gas flow with possibility of *remote* *monitoring* and control. A custom tailored and automated solution to address this issue has been designed and implemented using a single-board-embedded *computer* equipped with *on* *board* ADC/DAC-integrated circuits and transducer signal conditioning capabilities. The design details of system are presented in this work. (1 Refs)
Subfile: A B C

23/7/2 (Item 2 from file: 2)
DIALOG(R)File 2:INSPEC

03899999 INSPEC Abstract Number: C91041618
Title: V-ATE revs up PC diagnostics
Author(s): Apiki, S.
Journal: BYTE vol.16, no.3 p.281-2
Publication Date: March 1991 Country of Publication: USA
CODEN: BYTEDJ ISSN: 0360-5280
Language: English Document Type: Journal Paper (JP)
Treatment: Practical (P); Product Review (R)
Abstract: Vista Microsystems' V-ATE add-in card promises to give the information needed to find and correct problems in shaky AT and 386 clones. It's more sophisticated than diagnostic boards such as Award Software's POST-card-the V-ATE has an *on*-*board* *microprocessor* and supports diagnosis by remote computer. However, it is less than a stand-alone logic analyzer in the versatility of the signals it monitors or uses as a trigger. The card plugs into a 16-bit slot in the test system. You can use the V-ATE in one of two ways: with a second PC controlling the board or as

a stand-alone device. When you use the *remote* *diagnostic* features, you can connect the second machine to the V-ATE with a standard serial connection. A second cable runs from a port on the V-ATE to the keyboard connector on the test system's motherboard. (0 Refs)
Subfile: C

23/7/3 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

1920394 NTIS Accession Number: DE95015908
***Remote* *monitoring* of emissions using on-vehicle sensing and vehicle to roadside communications**
Davis, D. T.
Lawrence Livermore National Lab., CA.
Corp. Source Codes: 068147000; 9513035
Sponsor: Department of Energy, Washington, DC.
Report No.: UCRL-JC-121155; CONF-950857-3
Jun 95 8p
Languages: English Document Type: Conference proceeding
Journal Announcement: GRAI9603; ERA9603
Society of Automotive Engineers future transportation technology conference and exposition, Costa Mesa, CA (United States), 7-10 Aug 1995. Sponsored by Department of Energy, Washington, DC.
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NTIS Prices: PC A02/MF A01
Country of Publication: United States
Contract No.: W-7405-ENG-48
Recent developments in on-vehicle electronics makes practical *remote* *monitoring* of vehicle emissions compliance with CARB and EPA regulations. A system consisting of emission controls malfunction sensors, an *on*-*board* *computer* (OBC), and vehicle-to-roadside communications (VRC) would enable enforcement officials to remotely and automatically detect vehicle out-of-compliance status. Remote sensing could be accomplished at highway speeds as vehicles pass a roadside RF antenna and reader unit which would interrogate the on- vehicle monitoring and recording system. This paper will focus on the hardware system components require to achieve this goal with special attention to the VRC; a key element for *remote* *monitoring*. this *remote* sensing concept piggybacks on the development of inexpensive VRC equipment for automatic vehicle identification for electronic toll collection and intelligent transportation applications. Employing an RF transponder with appropriate interface to the OBC and malfunction sensors, a practical monitoring system can be developed with potentially important impact on air quality and enforcement. With such a system in place, the current -- and costly and ineffective -- emission control strategy of periodic smog checking could be replaced or modified.

23/7/4 (Item 2 from file: 6)
DIALOG(R)File 6:NTIS

1878017 NTIS Accession Number: N95-23683/2
Attention Focusing and Anomaly Detection in Systems Monitoring
Doyle, R. J.
Jet Propulsion Lab., Pasadena, CA.
Corp. Source Codes: 014828000; JJ574450
Sponsor: National Aeronautics and Space Administration, Washington, DC.
Oct 94 4p

Languages: English
Journal Announcement: GRAI9515; STAR3307
In Its Third International Symposium on Artificial Intelligence, Robotics, and Automation for Space 1994 p 57-60.
NTIS Prices: (Order as N95-23672, PC A20/MF A04)
Country of Publication: United States
Any attempt to introduce automation into the monitoring of complex physical systems must start from a robust anomaly detection capability. This task is far from straightforward, for a single definition of what constitutes an anomaly is difficult to come by. In addition, to make the monitoring process efficient, and to avoid the potential for information overload on human operators, attention focusing must also be addressed. When an anomaly occurs, more often than not several sensors are affected, and the partially redundant information they provide can be confusing, particularly in a crisis situation where a response is needed quickly. The focus of this paper is a new technique for attention focusing. The technique involves reasoning about the distance between two frequency distributions, and is used to detect both anomalous system parameters and 'broken' causal dependencies. These two forms of information together isolate the locus of anomalous behavior in the system being monitored.

23/7/5 (Item 3 from file: 6)
DIALOG(R)File 6:NTIS

1788566 NTIS Accession Number: N94-19171/5
VPU(Tm) Demonstration Mission Vicinity Processor Unit(Tm) Overview
Abdulezer, L.
Evolving Technologies Corp., New York, NY.
Corp. Source Codes: 888888888; E8048167
Sponsor: National Aeronautics and Space Administration, Washington, DC.
Oct 93 2p
Languages: English
Journal Announcement: GRAI9409; STAR3204
In NASA. Goddard Space Flight Center, the 1993 Shuttle Small Payloads Symposium p 73-74.
NTIS Prices: (Order as N94-19162/4, PC A09/MF A03)
Country of Publication: United States
Evolving Technologies Corporation is designing a new type of computer called a Vicinity Processor Unit (VPU). The VPU is designed to monitor and control payloads using an operating system, control process and software environment that specifically takes into account the time delay associated with *remotely* controlling and *monitoring* a group of payloads in real time. This is a fundamentally different way of computing which has vast scientific implications for the design and implementation of data processing systems for future space flight missions. As a demonstration mission, the VPU is expected to be flown aboard the Space Shuttle (Payload Identification No. G-700) as a part of NASA's Small Self-Contained Payloads (SSCP) Program. We believe this mission can greatly facilitate the development and validation of technology which may prove to be mission critical for many future space flight missions.

23/7/6 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05842936 E.I. No: EIP01266558995
Title: Design and implementation of an automatic gas-cylinder inversion system based on an embedded computer
Author: Benussi, L.; Bertani, M.; Bianco, S.; Fabbri, F.L.; Gianotti, P.; Lucherini, V.; Pace, E.; Qaiser, N.; Sarwar, S.

Corporate Source: Laboratori Nazionali di Frascati, I-00044 Frascati, Italy
Source: Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment v 461 n 1-3 Apr 1 2001. p 98-99
Publication Year: 2001
CODEN: NIMAER ISSN: 0168-9002
Language: English
Document Type: JA; (Journal Article) Treatment: X; (Experimental)
Journal Announcement: 0107W1
Abstract: Gas-filled detectors of modern experimental setups are increasingly requiring an uninterrupted gas flow with possibility of *remote* *monitoring* and control. A custom tailored and automated solution to address this issue has been designed and implemented using a single-board-embedded *computer* equipped with *on* *board* ADC/DAC-integrated circuits and transducer signal conditioning capabilities. The design details of system are presented in this work. copy 2001 Elsevier Science B.V. 1 Refs.

23/7/7 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04278474 E.I. No: EIP95102907017
Title: *Remote* *monitoring* using HART protocol
Author: Pratt, Wallace A.
Corporate Source: HART Communication Foundation, Austin, TX, USA
Conference Title: Proceeding of the 1995 International Conference, Exhibition ISA/95
Conference Location: New Orleans, LA, USA Conference Date: 19951001-19951006
E.I. Conference No.: 43832
Source: Advances in Instrumentation and Control : International Conference and Exhibition v 50 n pt 3 1995. Instrument Society of America, Research Triangle Park, NC, USA. p 993-1001
Publication Year: 1995
CODEN: AVINBP ISSN: 1054-0032
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications)
Journal Announcement: 9512W4
Abstract: *Remote* data acquisition and *monitoring* plays an important role in business due to both competitive and regulatory demands. The remote collection of data is required by the nature of the process measurements being made. Further, today's field devices have been revolutionarized by the PC. Most field devices developed include an *onboard* *PC* that performs the measurement and signal conditioning tasks. There are many reasons for the advent of 'smart' field devices, including lower manufacturing costs and higher quality data. Since smart instruments have become accepted and wide spread in industry, innovative architectures and solutions enabled by smart field device technology are beginning to appear. This paper discusses an architecture using the HART Communication Protocol to implement *remote* *monitoring* and data acquisition.

23/7/8 (Item 3 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04252545 E.I. No: EIP95092855857
Title: Monitoring detailed land surface changes from an airborne multispectral digital camera system
Author: Stow, Douglas; Hope, Allen; Phinn, Stuart; Nguyen, Anthony;

Shaari, David
Corporate Source: San Diego State Univ, San Diego, CA, USA
Conference Title: Proceedings of the 1995 International Geoscience and Remote Sensing Symposium. Part 3 (of 3)
Conference Location: Firenze, Italy Conference Date: 19950710-19950714
Sponsor: IEEE; URSI
E.I. Conference No.: 43564
Source: International Geoscience and Remote Sensing Symposium (IGARSS) v 3 1995. IEEE, Piscataway, NJ, USA,95CH35770. p 2103-2105
Publication Year: 1995
CODEN: IGRSE3
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications)
Journal Announcement: 9511W2
Abstract: This paper reports results from a research project that is focussed on an airborne multispectral imaging system for efficiently deriving high spatial resolution information on changing environmental conditions of land surfaces. Specifically under analysis is a commercial system operated by Positive Systems, Inc. (PSI) called the Airborne Data Acquisition and Registration (ADAR). ADAR is based on the integration of multiple digital cameras, a global positioning system (GPS), and an *in*-*flight* *computer*. ADAR data acquired in a sensor test laboratory and over coastal marshes are analyzed here. Radiometric characteristics and processing requirements are emphasized. (Author abstract) 6 Refs.

23/7/9 (Item 4 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

02022984 E.I. Monthly No: EI8610101360 E.I. Yearly No: EI86097281
Title: CELLULAR SYSTEMS EASE MOBILE PHONE WOES.
Author: Latamore, G. Berton
Source: High Technology (Boston) v 6 n 7 Jul 1986 p 60-62
Publication Year: 1986
CODEN: HTECD3 ISSN: 0195-4091
Language: ENGLISH
Document Type: JA; (Journal Article) Treatment: A; (Applications)
Journal Announcement: 8610
Abstract: Cellular telephone systems - in which cities are divided into many cells, each with its own antenna - are now providing subscribers with reliable mobile phone service of a quality equal to that of wired telephone systems. Estimates are made that there will be 1. 5 to 2 million subscribers nationwide by 1990. Various applications of cellular systems are considered including future applications of *remote* *troubleshooting*, which mechanics, for example, could use cellular *diagnostic* equipment to *remotely* poll car's *onboard* *computers* and identify the cause of a problem.

23/7/10 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

09653809 Genuine Article#: 430HE Number of References: 1
Title: Design and implementation of an automatic gas-cylinder inversion system based on an embedded computer
Author(s): Benussi L (REPRINT) ; Bertani M; Bianco S; Fabbri FL; Gianotti P ; Lucherini V; Pace E; Qaiser N; Sarwar S
Corporate Source: Lab Nazl Frascati,I-00044 Frascati//Italy/ (REPRINT); Lab Nazl Frascati,I-00044 Frascati//Italy/
Journal: NUCLEAR INSTRUMENTS & METHODS IN PHYSICS RESEARCH SECTION A-ACCELERATORS SPECTROMETERS DETECTORS AND ASSOCIATED EQUIPMENT, 2001

, V461, N1-3 (APR 1), P98-99
ISSN: 0168-9002 Publication date: 20010401
Publisher: ELSEVIER SCIENCE BV, PO BOX 211, 1000 AE AMSTERDAM, NETHERLANDS
Language: English Document Type: ARTICLE
Abstract: Gas-filled detectors of modern experimental setups are increasingly requiring an uninterrupted gas flow with possibility of *remote* *monitoring* and control. A custom tailored and automated solution to address this issue has been designed and implemented using a single-board-embedded *computer* equipped with *on* *board* ADC/DAC-integrated circuits and transducer signal conditioning capabilities. The design details of system are presented in this work.

23/7/11 (Item 1 from file: 63)
DIALOG(R)File 63:Transport Res(TRIS)

00721738 DA
TITLE: *REMOTE* *MONITORING* OF EMISSIONS USING ON-VEHICLE SENSING AND VEHICLE TO ROADSIDE COMMUNICATIONS
AUTHOR(S): Davis, DT
CORPORATE SOURCE: Lawrence Livermore National Laboratory, P.O. Box 808, Livermore, CA , 94550,
REPORT NUMBER: UCRL-JC-121155,;CONF-950857-3
Pag: 8p
SUPPLEMENTAL NOTES: Sponsored by Department of Energy, Washington, DC.
PUBLICATION DATE: 19950600 PUBLICATION YEAR: 1995
LANGUAGE: English SUBFILE: HRIS (H)
ISSN: N/A
AVAILABILITY: National Technical Information Service; 5285 Port Royal Road ; Springfield; VA ; 22161
ORDER NUMBER: DE95015908WTS
ABSTRACT: Recent developments in on-vehicle electronics makes practical *remote* *monitoring* of vehicle emissions compliance with CARB and EPA regulations. A system consisting of emission controls malfunction sensors, an *on*-*board* *computer* (OBC), and vehicle-to-roadside communications (VRC) would enable enforcement officials to remotely and automatically detect vehicle out-of-compliance status. Remote sensing could be accomplished at highway speeds as vehicles pass a roadside RF antenna and reader unit which would interrogate the on-vehicle monitoring and recording system. This paper focuses on the hardware system components required to achieve this goal with special attention to the VRC; a key element for *remote* *monitoring*, this *remote* sensing concept piggybacks on the development of inexpensive VRC equipment for automatic vehicle identification for electronic toll collection and intelligent transportation applications.
SUBJECT HEADING: H54 OPERATIONS AND TRAFFIC CONTROL; I73 TRAFFIC CONTROL

23/7/12 (Item 1 from file: 95)
DIALOG(R)File 95:TEME-Technology & Management

00941998 M95114171568
***Remote* *monitoring* of emissions using on-vehicle sensing and vehicle to roadside communications**
(Emissionsfernueberwachung durch Messwerterfassung am Fahrzeug und Messwertuebertragung zum Strassenrand)
Davis, DT
Lawrence Livermore Nat. Lab.
SAE-Papers, vHDT-301, n4, pp1-6, 1995
Document type: Conference paper Language: English

Record type: Abstract
ISSN: 0148-7191

ABSTRACT:
Recent developments in on-vehicle electronics makes practical *remote* *monitoring* of vehicle emissions compliance with CARB and EPA regulations. A system consisting of emission controls malfunction sensors, an *on*-*board* *computer* (OBC), and vehicle-to-roadside communications (VRC) would enable enforcement officials to remotely and automatically detect vehicle out-of-compliance status. Remote sensing could be accomplished at highway speeds as vehicles pass a roadside RF antenna and reader unit which would interrogate the on-vehicle monitoring and recording system. This paper will focus on the hardware system components required to achieve this goal with special attention to the VRC; a key element for *remote* *monitoring*. This *remote* sensing concept piggybacks on the development of inexpensive VRC equipment for automatic vehicle identification for electronic toll collection and intelligent transportation applications. Employing an RF transponder with appropriate interface to the OBC and malfunction sensors, a practical monitoring system can be developed with potentially important impact on air quality and enforcement. With such a system in place, the current - and costly and ineffective - emission control strategy of periodic smog checking could be replaced or modified.

23/7/13 (Item 1 from file: 266)

00275609
IDENTIFYING NO.: 0184194 AGENCY CODE: AGRIC
***REMOTE* SOIL MOISTURE *MONITORING* USING WEB BROWSERS FOR IMPROVED**
market information
ASSOCIATE INVESTIGATORS: Shinn ii, J. D.
PERFORMING ORG.: APPLIED RESEARCH ASSOCIATES, INC., SOUTH ROYALTON, VERMONT 05068
TYPE OF AWARD: SMALL BUSINESS GRANT |c K
SUMMARY: Our objectives for this Phase II program are to field demonstrate a web browser based decision support system (DSS) providing real-time *remote* *monitoring* of various sensors placed at the root depth, and compiling weather station data to provide growers with important information for making irrigation decisions. Key features of the system are the ability to access multiple *remote* sites that contain *monitoring* equipment, using software that the grower is already familiar with. Sensors available to the network will include soil moisture, temperature, resistivity, and local weather station data. Our approach will be to develop a pre-production soil moisture monitoring and decision support
system and to conduct a laboratory evaluation and field demonstration of the system. The Phase II effort will build upon the accomplishments of a Phase I effort that successfully demonstrated the feasibility of this system. Specific goals of the proposed effort are to 1) complete the soil moisture/resistivity/temperature probe (SMRT Probe) characterization program begun under the Phase I effort; 2) evaluate and minimize the manufacturing cost of the probe; 3) expand the functionality of the web-based data acquisition and control system (Web-DACS); 4) conduct a field demonstration of the total system to obtain long-term performance data under controlled field conditons; and
5) conduct market research to identify the commercial market size and cost sensitivity.PR of the probe from $1500 to around $550, thus broadening the base of potential users to whom the probe will be accessible. The proof-of-principle electronics circuit design of phase I has been replaced by a newly designed electronics circuit board. The addition of RS-485 allows multi-drop connection of up to 128 probes using a single cable, as well as allowing cable runs of distances up to 3000 feet. Power management

circuitry has also been added to the design so permanently installed probes can enter a power-conserving 'sleep' mode. The firmware which runs the probe's *on*-*board* *microprocessor* has

been upgraded to provide power management functions, support for the RS-485 hardware, and an improved communications instruction set. We are developing data acquisition software which is portable to the Windows CE and Windows Pocket PC operating systems for use palm-sized computing devices. The probe will be offered commercially with the software for palm-sized devices included. The software described above will serve both palm-sized and normal PCs, and will thus also meet the need for communication via a direct cable connection. ARA has begun preliminary tests of the new SMRT Probe design (probe body and electronics). So far, the stability of the electronics circuitry has been partially

evaluated. The excitation voltages of all three probes exhibited a variability of less than +/-0.12% over the approximate 15-degree Fahrenheit temperature range of the test. The data acquisition agent software is being re-programmed in C++ to work on Windows and Windows CE devices, and currently collects data to a sequential ASCII file. In addition, all browser-based user interface functions are being provided server side using the PHP programming language. This change provides several benefits: - It eliminates the need for client side graphics production, providing consistent graphical presentation of data to all users at the same speed regardless of computer; - It provides support

for non-Java-enabled browsers; - SQL database support is integrated, eliminating the 'bridge' to ODBC; - The security of user's data is strengthened because SQL queries are not being transmitted. - Data processing is invisible to the user, reducing the potential for client-side system incompatibilities. Currently, the data acquisition agent collects data and stores it in sequential ASCII format on the acquisition computer. Database connectivity still needs to be added. The structure of the SQL database has been expanded to include

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         (c) 1999 Forecast Intl/DMS
File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info

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             G)
S5         59   (ENGINE()INSTRUMENT(3N)CREW()ADVISORY) OR EICAS
S6    4724332   FAULT OR FAULTS OR ERROR OR PROBLEM?
S7       2183   MAINTENANCE(3N)(MANUAL OR HANDBOOK? OR HAND()BOOK? ?)
S8        413   (FAULT()DETECTION(2W)EXCLUSION) OR FDE
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             PROCESSOR?)
S14     56215   GLOBAL()POSITIONING()SYSTEM OR GPS
S15     26585   (MAIN OR CENTRAL OR MAINFRAME)(3N)(COMPUTER? OR PROCESSOR?)
S16         3   S1 AND S2 AND (S3 OR S11)
S17         3   RD (unique items)
S18         0   S1 AND S2 AND S4
```

```
S19        566   S1 AND S2
S20          1   S19 AND S10
S21          0   S5 AND S1
S22         13   S1 AND (S3 OR S11)
S23         13   S22 NOT PD=010624:PD=020110
S24         42   S14 AND S2 AND S3
S25          8   S24 AND S6
S26          6   RD (unique items)
S27          0   S26 AND (S10 OR S12 OR S7)
?
```

26/7/1 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

1512923 NTIS Accession Number: N90-18442/5
Autonomous Orbit Determination Using *GPS*
(Doctoral thesis)
Negreirosdepaiva, R.
Instituto de Pesquisas Espaciais, Sao Jose dos Campos (Brazil).
Corp. Source Codes: 058511000; IO601891
Sponsor: National Aeronautics and Space Administration, Washington, DC.
Report No.: INPE-4815-TDL/361
Jun 89 319p
Languages: Portuguese Document Type: Thesis
Journal Announcement: GRAI9017; STAR2811
In Portuguese; English Summary.
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A14/MF A02
Country of Publication: Brazil
State estimation procedures for satellite onboard orbit determination are developed and presented. In face of restrictions imposed by the *on*-*board* *computer*, simple analytical models for the satellite dynamics are used in conjunction with a Kalman filter for real time processing of *Global* *Positioning* *System* (*GPS*) observations. The satellite motion is either represented by polynomial expressions that approximate the behavior in time of the orbital elements or by a harmonic oscillator that has an analytical solution thus avoiding a numerical integration. The *GPS* observations are then sequentially processed to identify the coefficients of the polynomials (dynamic model) and evaluate the orbit or to determine directly the satellite position and velocity independent of ground support. With the proposed procedures the use of a more complex satellite dynamical model is avoided and the numerical integration, needed in standard orbit estimation, to propagate the orbit and the state *error* covariance matrix. The results of the numerical tests conducted under simulated conditions in a digital computer indicate that the proposed procedures are candidates for use in autonomous systems for real time orbit determination.

26/7/2 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

05173611 E.I. No: EIP98124488360
Title: Operational tests of noise abatement approaches for rotorcraft using differential *GPS* for guidance
Author: Hindson, William S.; Chen, Robert T.N.
Corporate Source: NASA Ames Research Cent, Moffett Field, CA, USA
Source: Journal of the American Helicopter Society v 43 n 4 Oct 1998. p 352-359
Publication Year: 1998
CODEN: JHESAK ISSN: 0002-8711
Language: English
Document Type: JA; (Journal Article) Treatment: A; (Applications); G; (General Review)
Journal Announcement: 9901W4
Abstract: The NASA/Army Rotorcraft Aircrew Systems Concepts Airborne Laboratory (RASCAL) UH-60A Black Hawk helicopter was used to test the feasibility of using operational techniques to alleviate helicopter noise during approach to landing. Decelerating approaches were flown using multi-segment glidepaths. The approaches were designed to avoid *flight*

conditions known to generate noise due to blade-vortex-interaction (BVI). A Local Differential *Global* *Positioning* *System* (LDGPS) was used for precision navigation, and guidance calculations were performed in an *on*-*board* *computer*. Steering commands were presented to the pilot using the existing electromechanical *flight* instruments of the UH-60A. Operational aspects of the noise abatement approaches were evaluated by pilots from NASA, FAA, and the helicopter industry. The methodology used to design the noise abatement trajectories is described, and navigation system and *flight* technical *error* data are reported. (Author abstract) 18 Refs.

26/7/3 (Item 2 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04515779 E.I. No: EIP96103351304
Title: *Flight* tests of noise abatement approaches for rotorcraft using differential *GPS* guidance
Author: Hindson, William S.; Chen, Robert T.N.
Corporate Source: NASA Ames Research Cent, Moffett Field, CA, USA
Conference Title: Proceedings of the 1995 51st Annual Forum. Part 1 (of 3)
Conference Location: Fort Worth, TX, USA Conference Date: 19950509-19950511
E.I. Conference No.: 45376
Source: Annual Forum Proceedings - American Helicopter Society v 1 1995. American Helicopter Soc, Alexandria, VA, USA. p 681-694
Publication Year: 1995
CODEN: PFASDL ISSN: 0733-4249
Language: English
Document Type: CA; (Conference Article) Treatment: G; (General Review)
Journal Announcement: 9611W4
Abstract: The NASA/Army Rotorcraft Aircrew Systems Concepts Airborne Laboratory (RASCAL) UH-60A Black Hawk helicopter was used to test the feasibility of using operational techniques to alleviate helicopter noise during approach to landing. Decelerating approaches were flown using multi-segment glidepaths. The approaches were designed to avoid *flight* conditions known to generate noise due to blade-vortex-interaction (BVI). A Local Differential *Global* *Positioning* *System* (LDGPS) was used for precision navigation, and guidance calculations were performed in an *onboard* *computer*. Steering commands were presented to the pilot using the existing electromechanical *flight* instruments of the UH-60A. Operational aspects of the noise abatement approaches were evaluated by pilots from NASA, FAA, and the helicopter industry. The methodology used to design the noise abatement trajectories is described, and navigation system and *flight* technical *error* data are reported. (Author abstract) 17 Refs.

26/7/4 (Item 1 from file: 34)
DIALOG(R)File 34:SciSearch(R) Cited Ref Sci

04752971 Genuine Article#: UE092 Number of References: 11
Title: NAVIGATION SATELLITE SYSTEMS - PRESENT AND FUTURE
Author(s): PELEGRIN M
Corporate Source: ECOLE POLYTECH/F-91128 PALAISEAU//FRANCE/
Journal: NOUVELLE REVUE AERONAUTIQUE ASTRONAUTIQUE, 1996, N1 (JAN-FEB), P 17-26
ISSN: 1247-5793
Language: FRENCH Document Type: ARTICLE
Abstract: The author analyzes the deficiencies of the present navigation systems and procedures, both for locating *aircraft* and to answer the

needs of competition.

He then explains how *GPS* is a true ''revolution'' and discusses the application of this system to light and commercial aviation. he evokes the extension of the present CPS potentials: differential *GPS* (D-*GPS*), *GPS* Landing System, Kinematic *GPS* Landing System, OMNI Marker.

Analyzing the current situation, which concerns the GNSS-1 and GNSS-2 systems and the CE-*GPS* European programme, he presents the following conclusions.

TOWARDS A SINGLE NAVIGATION SYSTEM

''The proof is given that a satellite based system allows for precise navigation and, with the addition of a few ground installations, will make it possible in the near future to practice CAT II landings; obviously, the four criteria for the approval of an ''aeronautical system: viz., precision, integrity, availability, and continuity will have to be verified Such an evolution will have very positive consequences: i) precision shared by all aeronautical vehicles;

ii) simplification of on-board equipment, diminution of the vehicle-borne weight, simplification of position land speed) readings, simplification of maintenance (important during stop-overs);

iii) simplification of ground equipements;

iv) de facto adoption of an universal reference grid (WGS-84). The present situation - *GPS* managed by a single county is unacceptable in the future. Therefore, it is necessary to stress our will for cooperation for both the definition of the future system (GNSS-2) and its exploitation; the latter implies multinational financing, but not necessarily multinational management: one country could be entrusted by the other countries with the management of the system, but a multinational management council is an ;absolute necessity [...]''.

TOWARDS THE CONCEPT OF THE ''AUTONOMOUS *AIRCRAFT*'' ''Two or three years ago, before the actual emergence of *GPS*, the concept of the autonomous *aircraft*, le., free from airways, was a pipe dream. 'In ten or twenty years, may be, the *aircraft* will navigate without constraints''.

Today, this dream is becoming a reality thanks to the CNS concept, particularly its ADS component, and *on* *board* *computers* (FMS, FMGC). Obviously, in the vicinity of airports areas, *aircraft* will still be under the guidance of a ground controller, because we cannot imagine that planes will arrange themselves for optimal landing sequencing. Descent will probably remain ground guided. However, after take off and initial climb, the choice for the climb end and the whole cruise will be left to the initiative of the crew It will choose its route depending on the criteria imposed by the company. These criteria could vary and tend towards either catching up in the schedule or minimal fuel consumption (without wind, this would be either orthodromy or loxodromy).

The *problem* remains of collision avoidance, more precisely mid-air collision avoidance (the *problem* of collision with the relief will be solved by the use of digital maps in the WCS-84 grid with, probably, a mesh of less than 100 x 100 so. meters for the whole world.[...].''

Two systems can be envisioned:

automatic transmission of postion (and speed) of near-by *aircraft* by the ADS sob-system of CNS;

the A-GAS sob-systems.

26/7/5 (Item 1 from file: 94)
DIALOG(R)File 94:JICST-EPlus

01230055 JICST ACCESSION NUMBER: 91A0053657 FILE SEGMENT: JICST-E
Mobile navigation experiment by *GPS*-INS compound navigation system *aircraft*.(1).Outline of the system.
SHINGU HIROKIMI (1); MATSUSHIMA KOICHI (1); MURATA MASAAKI (1); UCHIDA TADAO (1); ONO KOJI (1); MIYAZAWA NOBUKAZU (1); ISHIKAWA KAZUTOSHI (1); HARIKAE MASATOSHI (2); MAEDA HIROAKI (2)
(1) National Aerospace Lab.; (2) Toshiba Corp.
Hikoki Shinpojiumu Koenshu, 1990, VOL.28th, PAGE.136-139, FIG.5, TBL.1, REF.6
JOURNAL NUMBER: Z0902AAK
UNIVERSAL DECIMAL CLASSIFICATION: 629.7.07
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Conference Proceeding
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: This paper summarized the outline of the system evaluation by *flight* experiment, describing the design and trial manufacture of *GPS* receiver, ING and computer installed, which compose the captioned system, and Kalman filter estimation method. It presented the position *error* of 2Nm/h as INS performance, the position *error* of 25m SEP (stand-alone) and 10m SEP (differential) as *GPS* performance and other numbers.

26/7/6 (Item 1 from file: 108)
DIALOG(R)File 108:AEROSPACE DATABASE

02144910 A94-30483
AIAA/AAS Astrodynamics Conference, Scottsdale, AZ, Aug. 1-3, 1994, Technical Papers
Washington, DC, American Institute of Aeronautics and Astronautics, 1994, 596 p. (For individual items see A94-30484 to A94-30540).
1994
REPORT NO.: ISBN 1-56347-090-X
LANGUAGE: English
COUNTRY OF ORIGIN: United States COUNTRY OF PUBLICATION: United States
DOCUMENT TYPE: CONFERENCE PROCEEDINGS
JOURNAL ANNOUNCEMENT: IAA9410
Papers presented at this conference include those on a computation of satellite constellation range characteristics, a *computer* demonstration of *on*-*board* orbit control using a *GPS* receiver, Lunar Scout launch window, and polar elliptic orbits for global coverage constellations. Attention is also given to a new approach to halo orbit determination and control; optimal pole placement in time-dependent linear systems; control of tethered satellite systems, using thruster and offset strategies; and transfer orbits in the restricted *problem*. Other papers are on the effect of geometric stiffness on the control of robots with flexible arms, an approach to dynamics and control of flexible systems, an indirect optimization method for impulsive transfers, an analysis of mapping coverage obtained from spacecraft, and optimal low-thrust escape from the solar system (AIAA)
?

16/3,K/1 (Item 1 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

13821784 SUPPLIER NUMBER: 78052137 (USE FORMAT 7 OR 9 FOR FULL TEXT)
IF IT AIN'T BROKE, FIX IT.(using remote diagnostics and what GE is doing)
POOL, ROBERT
Technology Review (Cambridge, Mass.), 104, 7, 64
Sept, 2001
ISSN: 1099-274X LANGUAGE: English RECORD TYPE: Fulltext
WORD COUNT: 3408 LINE COUNT: 00270

Bad date

THE AIRBUS 340 Is AN HOUR OR 50 INTO ITS 11-HOUR *FLIGHT* from Hong Kong to Auckland, New Zealand. Twelve kilometers below, the islands of the Philippine...

...in the engine compartment has recorded the slightly depressed temperature. Then, three hours into the *flight*, the onboard computer that has been collecting readings from the engines uploads the data to...

...skin covering the engine's thrust reverser. The situation poses no immediate danger to the *aircraft*. But the airline is notified by telephone, and when the plane arrives in Auckland, mechanics...

...waiting with the parts needed to repair the skin. They finish in time for the *aircraft* to leave as scheduled on its next *flight*.

Five years ago, this could not have happened. The delamination would have worsened gradually, *flight* after *flight*, until a mechanic noticed it in the course of a visual inspection. By that point...

...and expensive repairs that would probably have forced the delay or even cancellation of the *aircraft*'s next *flight* and possibly kept it Out of service for days or weeks. But today, thanks in...

...of General Electric's Applied Statistics Program in Schenectady, NY. But with complex machinery like *aircraft* engines and locomotives, he say s, "we're already there."

To date, remote monitoring has...

...such supercharged monitoring is obvious to anyone who has ever missed a meeting because a *flight* was canceled or lost electricity because some part in a utility substation broke. Catching problems...

...health can be monitored during operation. Asea Brown Boveri, the giant European industrial conglomerate, puts *remote*-*diagnostics* capability into the propulsion systems it makes for cruise ships and other large vessels; an *onboard* *computer* collects operating data and forwards it via satellite to Helsinki for analysis. Turbine Technology Services... divisions, GE manufactures complex industrial equipment--power turbines and ship propulsion systems, in addition to *aircraft* engines and locomotives--alongside consumer items such as appliances and lighting products. GE is at...

...Securities who follows the company. Heyman points specifically to GE's leadership in monitoring of *aircraft* engines; it was a GE monitoring station outside Cincinnati that spotted the delamination in the...Federal Aviation Administration demands that certain critical components be replaced after a given number of *flights* or *flight*-hours. About one-third of engine removals are due to this, says Rusty Irving, head...

16/3,K/2 (Item 2 from file: 148)
DIALOG(R)File 148:Gale Group Trade & Industry DB

06127750 SUPPLIER NUMBER: 12651595 (USE FORMAT 7 OR 9 FOR FULL TEXT)
The payload of a clinical lab in space. (Cov r Story)
Koepke, John A.
Medical Laboratory Observer, v24, n7, p20(4)
July, 1992
DOCUMENT TYPE: Cover Story ISSN: 0580-7247 LANGUAGE: ENGLISH
RECORD TYPE: FULLTEXT
WORD COUNT: 1921 LINE COUNT: 00160

... these attributes follows.
* Zero gravity. Extensive studies are under way regarding potential effects of space *flight* on the cardiovascular and musculoskeletal systems, metabolic processes, and individual cells. The health of the...

...for determining human response to a weightless environment. Figure lists some concerns related to in-*flight* health care and research.
Modern medical diagnosis and care rely increasingly upon laboratory test results...

...as physicians' office laboratories (POLs).
* Cytometry. About 15% of astronauts who participate in long space *flights* experience a loss of red cell mass. A cytometer is needed to study this loss...

...to function in an environment of zero gravity.
[paragraph]Parameters. The cytometer must perform in-*flight* analysis on such long-duration space *flight* parameters as cellular function, immunologic responses, bone metabolism (primarily bone loss), muscle atrophy, and the...

...the many aspects of the crew's health that may be adversely affected by prolonged *flight*. The instrument should provide data leading to studies of the effectiveness of countermeasures to prevent...

...a form transmissible to the ground for analysis. Testing data will be acquired by the *onboard* *computer* and sent to a receiving station on Earth, where it will be analyzed. Adjustments for calibration and for realignment of optics and fluid components will be made *remotely*. Internal *diagnostic* programs will flag any mallunctions for remote correction.
Having established priorities for the cytometer, NASA...

16/3,K/3 (Item 1 from file: 180)

DIALOG Accession Number: 02399123 Supplier Number: 960302699
Export Administration Regulation; Simplification of Export Administration Regulations
Volume: 61 Issue: 58 Page: 12714
CITATION NUMBER: 61 FR 12714
Date: MONDAY, MARCH 25, 1996

TEXT:
...November 1, 1996.

Use of Existing Form BXA 686-P, Statement by Foreign Importer of *Aircraft* or Vessel Repair Parts and Form BXA 6026-P, Service Supply (SL) Statement by U.S. Exporter will be discontinued on March 25, 1996, because the *Aircraft* and Vessel Repair Station Procedure at Sec. 773A.8 and the

Volume: 59 Issue: 86 Page: 23264
CITATION NUMBER: 59 FR 23264
Date: THURSDAY, MAY 5, 1994

TEXT:
... Transportation Sources (1) Introduction (2) Civil and Military Aviation (a) General Description of Category (1) *Aircraft* Operational Classes (2) Related Mobile Sources (3) Need for Control (4) Level of Control (b) Commercial *Aircraft* Operations (1) Overview (a) Airline Focus and Specific Sources Covered (b) Geographic Scope (c) Control...Facilities while Hotelling (d) Control Strategies--Discount for Staying outside of the Region (5) Non-*Aircraft* Military Installations 5. Impact of Economic Incentive Program Rule on Fee Programs in the FIP...

... ii) Spark ignition engines less than 25 hp (iii) Recreational marine engines (iv) Locomotives (v) *Aircraft* and airports (4) Mobile baseline inventory summary 3. Air quality data and modeling analyses a and Engines, On-Highway Motorcycles 40 CFR 52.2970--Civil *Aircraft* Operations 40 CFR 52.2971--Locomotives 40 CFR 52.2972--Military *Aircraft* Operations 40 CFR 52.2973--Ships and Ports 40 CFR 52.2975--Enhanced In-Use...the federal government has sole jurisdiction. Emissions from sources such as new locomotives, ship engines, *aircraft* engines, and some farm and construction equipment have not been previously included in state and... regulated for air quality purposes, will also be asked to make further emissions reductions from *aircraft* and other airport activities (see section III.D.4.e.(2).).

In ...appropriate emissions reductions in these areas, the FIP proposals include controls for locomotives, airports and *aircraft*, large marine vessels, and military installations.

For locomotives, EPA is relying on a national regulation...target in the FIPs, including mobile emissions sources under the direct control of the airline (*aircraft*, *aircraft* auxiliary power units, ground service equipment, captive vehicle fleets, and any other airline-operated mobile...

... sources under the control of the Department of Defense (DOD), with the exception of military *aircraft* and vessels. This includes auxiliary power units, ground service equipment, captive vehicle fleets, privately owned... encourage shipping companies to reroute their shipping activities beyond the Channel Islands.

Accelerate airport and *aircraft* programs. EPA could accelerate programs designed to reduce emissions from commercial, general, and military *aircraft* and associated activity.

Accelerate turnover of recreational boat engines. Emissions from recreational boat engines will...

... onroad heavy duty truck measure, nonroad growth cap, accelerated shipping fee system, accelerated airport and *aircraft* programs, accelerated turnover of recreational boat engines, and accelerated stationary source cap on the overall...repair and refinishing facilities such as auto garages, auto body shops and workshops for buses, *aircraft*, trains and trucks. This proposed rule also applies to repair, service, and production operations at...

16/3,K/5 (Item 3 from file: 180)
DIALOG(R)File 180:Federal Register

DIALOG Accession Number: 02274118 Supplier Number: 930201997

...in
weapon systems operation by improving aircrew life support systems, man-machine integration (to include *aircraft* information display systems), and protection from dynamic forces (acceleration/escape/windblast). Manpower, personnel, training, and...
...more
highly trained and flexible cadre of personnel and reduce the cost of maintaining crew, *aircraft*, and support personnel readiness. This Applied Research program develops technologies to increase operational readiness by...in Thousands):

- (U) $ 831 Explored and defined advanced logistics technology concepts in on-orbit servicing, *remote* *diagnostics*, and logistics models for improved support of space operations to increase the availability and flexibility...

...by defining and
evaluating advanced knowledge representation schemes and computational linguistics methods to automatically extract *maintenance* *manual* information for weapon systems design data.

- (U) $ 34 Identified as a source for SBIR.

- (U...develop initial algorithms to support the advanced prognostic/diagnostic program which will improve and reduce *aircraft* down time. Develop enabling technology for innovative software architectures for the representation of human behavior...in joint field exercises. Completed cockpit
aircrew accommodation surveys for 50 percent of Air Force *aircraft* types and completed 50 percent U.S. data collection under a multi-national, whole-body...

...wide field-of-view night vision displays;
standardized test methods for night vision devices and *aircraft* visual transparencies.

- (U) $ 2,775 Continued to develop improved audio technologies for enhanced human-system...

...and
performance technologies including oxygen generation, life support, and high- altitude protection technologies; developed in-*flight* spatial disorientation training technologies; developed strength conditioning regimens for improved acceleration tolerance; and determined effects...

...Predator Unihabited Air Vehicle control
station. Complete cockpit aircrew accommodation evaluations for Air Force inventory *aircraft*. Complete U.S. part of international whole-body three-dimensional size survey for new design...reduction, voice control, and voice activated
switch technologies in a low-cost, high reliability, reconfigurable *aircraft* audio interface system to enhance performance and reduce workload. Continue to explore audio information management...

...and verify visual performance models for
windscreen optical parameters.

- (U) $ 2,648 Continue development and *flight* demonstration of reconfigurable *aircraft* audio interface system for enhanced performance and reduced workload. Explore active noise reduction and active...

...for aircrews and Air Force personnel. Develop technology to assess and reduce adverse impacts of *aircraft* noise and sonic booms produced by Air Force operations.

- (U) $ 5,151 Develop advanced restraint system technologies using defined injury criteria to ensure safety of all aircrew during *aircraft* and other vehicle operations, crashes, and emergency escape. Develop criteria for human performance in a...
...Not Applicable.

(U) C. Other Program Funding Summary:

(U) Related Activities:

- (U) PE 0602201F, Aerospace *Flight* Dynamics.

- (U) PE 0602204F, Aerospace Sensors.

- (U) PE 0602702F, Command, Control, and Communications.

- (U) PE...

...and Simulation Technology.

- (U) PE 0603231F, Crew Systems and Personnel Protection Technology.

- (U) PE 0603245F, *Flight* Vehicle Technology Integration.

- (U) PE 0604227F, Distributed Mission Training (DMT).
- (U) PE 0604703F, Aeromedical/Casualty...

...disease detection; (3) impact of asymptomatic disease on aircrew performance; (4) therapeutic drug effects on *flight* safety; and (5) physiological factors affecting operational readiness and effectiveness.

(U) FY 1998 ($ in Thousands...

...Completed development of methods to identify and remediate physiological impairments arising from flying high performance *aircraft*.

- (U) $ 380 Conducted and completed expanded physical fitness test battery and fire fighter physical fitness...a wide range of deployment locations.

- (U) $ 747 Developed technology to reduce adverse impacts of *aircraft* noise and sonic booms by demonstrating miniaturized affordable sonic boom monitor, conducting a joint study...

19/3,K/4 (Item 2 from file: 388)
DIALOG(R)File 388:PEDS: Defense Program Summaries

09008071

Armstrong Lab Exploratory Dev lopment

Binder: PROGRAM ELEMENT DESCRIPTIVE SUMMARY - FY1999
Service: AIR FORCE
Pub. Date: MAY 20, 1998
Source: Forecast International/DMS

```
show files;ds
File   9:Business & Industry(R) Jul/1994-2002/Jan 09
         (c) 2002 Resp. DB Svcs.
File  16:Gale Group PROMT(R) 1990-2002/Jan 09
         (c) 2002 The Gale Group
File  18:Gale Group F&S Index(R) 1988-2002/Jan 09
         (c) 2002 The Gale Group
File  20:Dialog Global Reporter 1997-2002/Jan 10
         (c) 2002 The Dialog Corp.
File  80:TGG Aerospace/Def.Mkts(R) 1986-2002/Jan 09
         (c) 2002 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2002/Jan 09
         (c)2002 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 180:Federal Register 1985-2002/Jan 10
         (c) 2002 format only The DIALOG Corp
File 264:DIALOG Defense Newsletters 1989-2002/Jan 09
         (c) 2002 The Dialog Corp.
File 388:PEDS: Defense Program Summaries 1999/May
         (c) 1999 Forecast Intl/DMS
File 481:DELPHES Eur Bus 95-2002/Dec W4
         (c) 2002 ACFCI & Chambre CommInd Paris
File 583:Gale Group Globalbase(TM) 1986-2002/Jan 09
         (c) 2002 The Gale Group
File 587:Jane's Defense&Aerospace 2002/Dec W5
         (c) 2002 JANE'S INFORMATION GROUP
File 605:U.S. Newswire 1999-2002/Jan 10
         (c) 2002 U.S. Newswire via Comtex
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         (c) 2002 The Gale Group
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         (c) 2002 McGraw-Hill Co. Inc
File 635:Business Dateline(R) 1985-2002/Jan 10
         (c) 2002 ProQuest Info&Learning
File 636:Gale Group Newsletter DB(TM) 1987-2002/Jan 09
         (c) 2002 The Gale Group
File 660:Federal News Service 1991-2002/Jan 09
         (c) 2002 Federal News Service
File 665:U.S. Newswire 1995-1999/Apr 29
         (c) 1999 U.S. Newswire via Comtex

Set     Items   Description
S1      42410   (REMOTE OR REMOTELY)(3N)(MONITORING OR DIAGNOSTIC? OR TROU-
             BLESHOOT? OR TROUBLE()SHOOT?)
S2    2392729   AEROPLANE? OR AIRPLANE? OR AIR()PLANE? OR FLIGHT? ? OR AIR-
             CRAFT? OR AIR()CRAFT?
S3      15294   (ONBOARD OR 'ON'()BOARD OR "ON"()BOARD)(3N)(COMPUTER? OR M-
             ICROPROCESSOR? OR MICROPROCESSOR? OR LAPTOP? ? OR PC)
S4       6611   MAINTENANCE(3N)(LOG OR RECORD OR HISTORY OR LOGS OR LOGGIN-
             G)
S5        644   (ENGINE()INSTRUMENT(3N)CREW()ADVISORY) OR EICAS
S6    5068102   FAULT OR FAULTS OR ERROR OR PROBLEM?
S7       3477   MAINTENANCE(3N)(MANUAL OR HANDBOOK? OR HAND()BOOK? ?)
S8        268   (FAULT()DETECTION(2W)EXCLUSION) OR FDE
S9        448   TERMINAL(3N)(ONBOARD? OR ON()BOARD?)
S10       759   (TROUBLESHOOT? OR TROUBLE()SHOOT?)(3N)(PROCEDURE?)
S11      1000   (INFLIGHT? OR IN()FLIGHT)(3N)(COMPUTER? OR MICROPROCESSOR -
             OR MICRO()PROCESSOR? OR LAPTOP? OR TERMINAL? OR PC)
S12       259   FLIGHT()DECK()EFFECT OR FDE
S13    129245   (REMOTE? OR MAIN OR CENTRAL OR MAINFRAME)(3N)(COMPUTER? OR
             PROCESSOR?)
S14         2   S1(S)S2(S)S3
```

S15	47	S1(S)S3
S16	6	S15 AND S2
S17	6	S7(S)S1
S18	4	S17 AND S2
S19	4	RD (unique items)

?

22/3,K/1 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

1878017 NTIS Accession Number: N95-23683/2
Attention Focusing and Anomaly Detection in Systems Monitoring
Doyle, R. J.
Jet Propulsion Lab., Pasadena, CA.
Corp. Source Codes: 014828000; JJ574450
Sponsor: National Aeronautics and Space Administration, Washington, DC.
Oct 94 4p
Languages: English
Journal Announcement: GRAI9515; STAR3307
In Its Third International Symposium on Artificial Intelligence, Robotics, and Automation for Space 1994 p 57-60.
NTIS Prices: (Order as N95-23672, PC A20/MF A04)

Descriptors: Artificial intelligence; *Attention; *Complex systems; *Computer programs; *Computer systems performance; *Fault detection; *Focusing; **In*-*flight* *monitoring*; *Program verification (*Computers*) ; **Remote* sensing; *Space platforms; Automatic control; Distributed processing; Frequency distribution; Real time operation; Remote sensors

22/3,K/2 (Item 2 from file: 6)
DIALOG(R)File 6:NTIS

1788566 NTIS Accession Number: N94-19171/5
VPU(Tm) Demonstration Mission Vicinity Processor Unit(Tm) Overview
Abdulezer, L.
Evolving Technologies Corp., New York, NY.
Corp. Source Codes: 888888888; E8048167
Sponsor: National Aeronautics and Space Administration, Washington, DC.
Oct 93 2p
Languages: English
Journal Announcement: GRAI9409; STAR3204
In NASA. Goddard Space Flight Center, the 1993 Shuttle Small Payloads Symposium p 73-74.
NTIS Prices: (Order as N94-19162/4, PC A09/MF A03)

... control process and software environment that specifically takes into account the time delay associated with *remotely* controlling and *monitoring* a group of payloads in real time. This is a fundamentally different way of computing...

... vast scientific implications for the design and implementation of data processing systems for future space *flight* missions. As a demonstration mission, the VPU is expected to be flown aboard the Space...
... and validation of technology which may prove to be mission critical for many future space *flight* missions.
Descriptors: Airborne/spaceborne computers; *Data processing equipment; * *Microprocessors*; **Onboard data processing*; Monitors; Remote control; Space shuttle payloads; Spaceborne experiments; Real time operation; Time lag

22/3,K/3 (Item 1 from file: 589)
DIALOG(R)File 589:FI Defense Market Intelligence

00012904

TIUNGSAT-1

Binder: SPACE SYSTEMS
Category: REMOTE SENSING SATELLITES
Pub. Date: AUGUST 01, 2001
Source: Forecast International/DMS
Language: English
Word Count: 1053

TYPE

TiungSat-1 is a remote sensing microsatellite built through a technology transfer agreement between Malaysia and Surrey Satellite Technology.

Country: MALAYSIA, UNITED KINGDOM
Industry: AEROSPACE AND DEFENSE
Sections: EXECUTIVE, CONTRACTORS, CURRENT STATUS & OUTLOOK, QUANTITY, MISSION, PRICE RANGE, CHARACTERISTICS, BACKGROUND, FUNDING, TIMETABLE, FORECAST
Binder Code: SS

...1 is used for several programs, including studies in meteorology, disaster mitigation and management, pollution *monitoring*, *remote* surveillance, e-mail communication, mapping, fishery, and river observations.

PRICE RANGE

The estimated cost of...

...and a 1,200 kilometer swath width. The imager can collect images instantaneously along its *flight* route.

The Multi-Spectral Earth Imaging System (MSEIS) comprises two-dimensional CCD array detectors, the...

...provide accurate timing for spacecraft functions.

Along with the above payloads, TiungSat-1 has two *onboard* *computers* (OBCs).

	Metric	US
Dimensions		
Spacecraft	.69 x.366 x.366 m	2.26 x 1...

22/3,K/4 (Item 2 from file: 589)
DIALOG(R)File 589:FI Defense Market Intelligence

00009861

MLS GROUND STATIONS

Binder: ELECTRONIC SYSTEMS
Category: FAA/ATC PROGRAMS\ORIENTATION
Pub. Date: APRIL 01, 1997
Source: Forecast International/DMS
Language: English
Word Count: 12516

DESCRIPTION

The Microwave Landing System (MLS) was intended to replace conventional Instrument Landing Systems (ILS) and Precision Approach Radar (PAR).

Country: UNITED STATES, RUSSIAN FEDERATION, CANADA
Industry: AEROSPACE AND DEFENSE
Companies: ALENIA SPAZIO SPA, ALLIEDSIGNAL AVIONICS, ARINC RESEARCH CORP
Sections: SPONSOR, CONTRACTORS, STATUS, TOTAL PRODUCED, APPLICATION, PRICE RANGE, TECHNICAL DATA, VARIANTS/UPGRADES, BACKGROUND, FUNDING, RECENT CONTRACTS, TIMETABLE, WORLDWIDE DISTRIBUTION, FORECAST
Binder Code: ES

...with a very
low noise content. Narrow system bandwidth accommodates the Doppler shifts caused by *aircraft* motion relative to the station over a range of approach speeds from hover to 600...

...rollout end of the runway, on the extended counterline. Precision Distance Measurement equipment will provide *aircraft* equipped with DME/P avionics final approach accuracy to within 100 feet, compared to existing...

...existing non-precision DME airborne
equipment. The MLS-DME/P equipment group also will enable *aircraft* to use off-set approaches where needed.

Airborne MLS equipment consists of antenna, angle receiver...

...360o reception of the ground signal. When
two MLS receivers are installed in larger-sized *aircraft*, three or more antennas may be necessary. The processor includes extensive signal acquisition and track...

...be coupled to conventional CDI (Course
Deviation Indicator) or ILS indicators, or to an automatic *flight* control system. Additional information, including facility identification, runway azimuth, landing category, runway identification and condition...

...and while it is still a sound principle, it is not adaptable to many modern *aircraft* capable of steep approaches. The MLS makes it possible to overcome the limitations of the runway approach end. This leads to ILS hold lines at certain airports to keep *aircraft* that are landing from receiving interference from *aircraft* that are taking off. JFK Airport in New York City, NY, has a problem because...

...guidance is simultaneously available to a variety of users.
For example, large command jets, smaller *aircraft*, STOL *aircraft*, and helicopters can all carry out approaches for their specific capabilities, with MLS being especially valuable for the latter two.

An increasing number of *aircraft* are now being equipped with Area Navigation (R-NAV) capability. The MLS signal will provide...

...the lowest minimums possible that are
consistent with other factors such as terminal producers and *aircraft*/pilot capabilities.

The installation cost of MLS could be less than that of ILS, with...

...In December 1982,

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Set     Items   Description
S1      15094   (REMOTE OR REMOTELY)(3N)(MONITORING OR DIAGNOSTIC? OR TROU-
             BLESHOOT? OR TROUBLE()SHOOT?)
S2     477095   AEROPLANE? OR AIRPLANE? OR AIR()PLANE? OR FLIGHT? ?
S3       5097   (ONBOARD OR 'ON'()BOARD OR "ON"()BOARD)(3N)(COMPUTER? OR M-
             ICROPROCESSOR? OR MICROPROCESSOR? OR LAPTOP? ? OR PC)
S4       1731   MAINTENANCE(3N)(LOG OR RECORD OR HISTORY OR LOGS OR LOGGIN-
             G)
S5         65   (ENGINE()INSTRUMENT(3N)CREW()ADVISORY) OR EICAS
S6    4726014   FAULT OR FAULTS OR ERROR OR PROBLEM?
S7     468424   AIRCRAFT?
S8       2186   MAINTENANCE(3N)(MANUAL OR HANDBOOK? OR HAND()BOOK? ?)
S9        413   (FAULT()DETECTION(2W)EXCLUSION) OR FDE
S10       142   TERMINAL(3N)(ONBOARD? OR ON()BOARD?)
S11       389   (TROUBLESHOOT? OR TROUBLE()SHOOT?)(3N)(PROCEDURE?)
S12    858159   PLANE OR PLANES OR AIRLINER?
S13       682   S1 AND (S2 OR S7 OR S12)
S14        37   S8(5N)(COMPUTERI? OR DISPLAY?)
S15       316   (INFLIGHT? OR IN()FLIGHT)(3N)(COMPUTER? OR MICROPROCESSOR -
             OR MICRO()PROCESSOR? OR LAPTOP? OR TERMINAL? OR PC)
S16       381   FLIGHT()DECK()EFFECT OR FDE
S17         2   S15 AND S1
S18         2   RD (unique items)
S19         6   S13 AND (S3 OR S15)
S20         6   RD (unique items)
S21       317   S1(S)(S2 OR S7 OR S12)
S22         5   S21 AND (S3 OR S15)
S23         5   RD (unique items)
?t 23/de/all
>>>No matching display code(s) found in file(s): 388, 589

 23/DE/1     (Item 1 from file: 6)
DIALOG(R)File   6:(c) 2002 NTIS, Intl Cpyrght All Rights Res. All rts.
reserv.

  Descriptors:  Artificial intelligence; *Attention; *Complex systems;
*Computer programs; *Computer systems performance; *Fault detection;
*Focusing; **In*-*flight* *monitoring*; *Program verification (*Computers*)
; **Remote* sensing; *Space platforms; Automatic control; Distributed
processing; Frequency distribution; Real time operation; Remote sensors


 23/DE/2     (Item 2 from file: 6)
DIALOG(R)File   6:(c) 2002 NTIS, Intl Cpyrght All Rights Res. All rts.
reserv.

  Descriptors: Airborne/spaceborne computers; *Data processing equipment; *
*Microprocessors*;  **Onboard  data  processing*; Monitors; Remote control;
Space  shuttle  payloads; Spaceborne experiments; Real time operation; Time
lag
?
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4/7/1
DIALOG(R)File 6:NTIS

2011857 NTIS Accession Number: N19970012495
Quantitative Measures for Software Independent Verification and Validation
Lee, A.
National Aeronautics and Space Administration, Houston, TX. Lyndon B. Johnson Space Center.
Corp. Source Codes: 019042004; ND185000
Report No.: NAS 1.60:3634; NASA-TP-3634
Dec 96 184p
Languages: English
Journal Announcement: GRAI9719; STAR3504
Order this product from NTIS by: phone at 1-800-553-NTIS (U.S. customers); (703)605-6000 (other countries); fax at (703)321-8547; and email at orders@ntis.fedworld.gov. NTIS is located at 5285 Port Royal Road, Springfield, VA, 22161, USA.
NTIS Prices: PC A10/MF A02
Country of Publication: United States
Contract No.: RTOP 323-88-02-01
As software is maintained or reused, it undergoes an evolution which tends to increase the overall complexity of the code. To understand the effects of this, we brought in statistics experts and leading researchers in software complexity, reliability, and their interrelationships. These experts' project has resulted in our ability to statistically correlate specific code complexity attributes, in orthogonal domains, to errors found over time in the HAL/S flight software which flies in the Space Shuttle. Our research has demonstrated that a more complete domain coverage can be mathematically demonstrated with the approach we have applied, thereby ensuring full insight into the cause-and-effects relationship between the complexity of a software system and the fault density of that system. By applying the operational profile, we can characterize the dynamic effects of software path complexity under this same approach. We now have the ability to measure specific attributes which have been statistically demonstrated to correlate to increased error probability, and to know which actions to take, for each complexity domain. Shuttle software verifiers can now monitor the changes in the software complexity, assess the added or decreased risk of software faults in modified code, and determine necessary corrections. The reports, tool documentation, user's guides, and new approach that have resulted from this research effort represent advances in the state of the art of software quality and reliability assurance. Details describing how to apply this technique to other NASA code are contained in this document.
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17/7/1 (Item 1 from file: 6)
DIALOG(R)File 6:NTIS

1878017 NTIS Accession Number: N95-23683/2
Attention Focusing and Anomaly Detection in Systems Monitoring
Doyle, R. J.
Jet Propulsion Lab., Pasadena, CA.
Corp. Source Codes: 014828000; JJ574450
Sponsor: National Aeronautics and Space Administration, Washington, DC.
Oct 94 4p
Languages: English
Journal Announcement: GRAI9515; STAR3307
In Its Third International Symposium on Artificial Intelligence, Robotics, and Automation for Space 1994 p 57-60.
NTIS Prices: (Order as N95-23672, PC A20/MF A04)
Country of Publication: United States
Any attempt to introduce automation into the monitoring of complex physical systems must start from a robust anomaly detection capability. This task is far from straightforward, for a single definition of what constitutes an anomaly is difficult to come by. In addition, to make the monitoring process efficient, and to avoid the potential for information overload on human operators, attention focusing must also be addressed. When an anomaly occurs, more often than not several sensors are affected, and the partially redundant information they provide can be confusing, particularly in a crisis situation where a response is needed quickly. The focus of this paper is a new technique for attention focusing. The technique involves reasoning about the distance between two frequency distributions, and is used to detect both anomalous system parameters and 'broken' causal dependencies. These two forms of information together isolate the locus of anomalous behavior in the system being monitored.

17/7/2 (Item 2 from file: 6)
DIALOG(R)File 6:NTIS

1788566 NTIS Accession Number: N94-19171/5
VPU(Tm) Demonstration Mission Vicinity Processor Unit(Tm) Overview
Abdulezer, L.
Evolving Technologies Corp., New York, NY.
Corp. Source Codes: 888888888; E8048167
Sponsor: National Aeronautics and Space Administration, Washington, DC.
Oct 93 2p
Languages: English
Journal Announcement: GRAI9409; STAR3204
In NASA. Goddard Space Flight Center, the 1993 Shuttle Small Payloads Symposium p 73-74.
NTIS Prices: (Order as N94-19162/4, PC A09/MF A03)
Country of Publication: United States
Evolving Technologies Corporation is designing a new type of computer called a Vicinity Processor Unit (VPU). The VPU is designed to monitor and control payloads using an operating system, control process and software environment that specifically takes into account the time delay associated with *remotely* controlling and *monitoring* a group of payloads in real time. This is a fundamentally different way of computing which has vast scientific implications for the design and implementation of data processing systems for future space *flight* missions. As a demonstration mission, the VPU is expected to be flown aboard the Space Shuttle (Payload Identification No. G-700) as a part of NASA's Small Self-Contained Payloads (SSCP) Program. We believe this mission can greatly facilitate the development and validation of technology which may prove to be mission

critical for many future space *flight* missions.

17/7/3 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

04252545 E.I. No: EIP95092855857
Title: Monitoring detailed land surface changes from an airborne multispectral digital camera system
Author: Stow, Douglas; Hope, Allen; Phinn, Stuart; Nguyen, Anthony; Shaari, David
Corporate Source: San Diego State Univ, San Diego, CA, USA
Conference Title: Proceedings of the 1995 International Geoscience and Remote Sensing Symposium. Part 3 (of 3)
Conference Location: Firenze, Italy Conference Date: 19950710-19950714
Sponsor: IEEE; URSI
E.I. Conference No.: 43564
Source: International Geoscience and Remote Sensing Symposium (IGARSS) v 3 1995. IEEE, Piscataway, NJ, USA,95CH35770. p 2103-2105
Publication Year: 1995
CODEN: IGRSE3
Language: English
Document Type: CA; (Conference Article) Treatment: A; (Applications)
Journal Announcement: 9511W2
Abstract: This paper reports results from a research project that is focussed on an airborne multispectral imaging system for efficiently deriving high spatial resolution information on changing environmental conditions of land surfaces. Specifically under analysis is a commercial system operated by Positive Systems, Inc. (PSI) called the Airborne Data Acquisition and Registration (ADAR). ADAR is based on the integration of multiple digital cameras, a global positioning system (GPS), and an *in*-*flight* *computer*. ADAR data acquired in a sensor test laboratory and over coastal marshes are analyzed here. Radiometric characteristics and processing requirements are emphasized. (Author abstract) 6 Refs.
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